

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-019776

(43)Date of publication of application : 20.01.1995

(51)Int.Cl.

F28F 1/12  
B05D 7/14  
C08L 33/26  
C09D133/26  
F28F 1/32

(21)Application number : 05-161403

(71)Applicant : NIPPON PARKERIZING CO LTD  
MITSUBISHI ELECTRIC CORP

(22)Date of filing : 30.06.1993

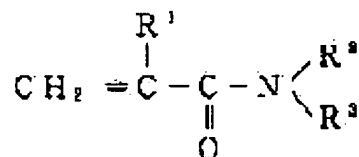
(72)Inventor : SAKO RYOSUKE  
HAMAMURA KAZUNARI  
FURUYAMA OSAMU  
KAWAMOTO TAKAO

## (54) ALUMINUM-CONTAINING METAL COMPOSITE FOR HEAT EXCHANGER

### (57)Abstract:

PURPOSE: To obtain an aluminum-containing metal composite for a heat exchanger which is excellent in hydrophilicity and a frost preventing effect, by forming a specific frost preventing resin film layer on at least one surface of an Al-containing metal material.

CONSTITUTION: A water base treatment solution containing a polymer component A constituted of the monopolymer or copolymer of an acrylamide monomer expressed by the formula, a polymer component B constituted of the monopolymer or copolymer of a monomer having a carboxylic acid group, a sulfonic acid group, a phosphonic acid group, primary to tertiary amino groups or a quaternary ammonium group in a molecule or of the salt of the monomer, a crosslinking agent component C and a metal compound component D constituted of a compound of Li, Mg or Ba is applied on an Al-containing metal material and put in a crosslinking reaction, whereby a frost preventing resin film layer is formed. in the formula, R1 denotes an H or methyl group



and R2 and R3 denote H, an alkyl group, a benzyl group or a hydroxyalkyl group of C1 to C4.

---

## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]